

52. An immunogenic composition useful for treating a patient mammal having diseased cells, comprising:

- (a) an isolated autologous target diseased cell which expresses one or more primary and costimulatory T cell activation molecules at a level higher than that in said diseased cells in said patient mammal; and
- (b) a bridge molecule capable of stimulating T cell activation comprising a binding site for CD28 or 4-1BB on the surface of T cells in said patient mammal, wherein said bridge molecule is attached to said target diseased cell.

53. A pharmaceutical composition for administration to a patient mammal having diseased cells, comprising:

- (a) a pharmaceutically effective amount of an autologous target diseased cell having attached thereto one or more bridge molecules capable of stimulating T cell activation each comprising a binding site for CD28 or 4-1BB on the surface of T cells in said patient mammal; and
- (b) a pharmaceutically acceptable carrier.

54. An immunogenic composition useful for treating a patient mammal having diseased cells, comprising:

- (a) an isolated autologous target diseased cell; and
- (b) a bridge molecule capable of stimulating T cell activation, wherein said bridge molecule comprises a binding site for CD28 on the surface of T cells and a binding site

for 4-1BB on the surface of T cells and said bridge molecule is attached to the surface of said target diseased cell.

55. An immunogenic composition useful for treating a patient mammal having diseased cells, comprising:

- (a) an isolated autologous target diseased cell;
- (b) a first bridge molecule capable of stimulating T cell activation, wherein said first bridge molecule comprises a binding site for CD28 on the surface of T cells and is attached to the surface of said target diseased cell; and
- (c) a second bridge molecule capable of stimulating T cell activation, wherein said second bridge molecule comprises a binding site for 4-1BB on the surface of T cells and is attached to the surface of said target diseased cell.

56. A bridge molecule for linking a target diseased cell from a patient mammal to an effector cell in said patient mammal, comprising:

- (a) a first binding site for an antigen on the surface of said target diseased cell;
- (b) a second binding site for CD28 on the surface of T cells; and
- (c) a third binding site for 4-1BB on the surface of T cells.

57. A method of curing a patient mammal of diseased cells or reducing growth of diseased cells, comprising the steps of:

- (a) providing an isolated autologous target diseased cell;
- (b) treating said target diseased cell to increase the levels of one or more primary

and costimulatory T cell activation molecules in said target diseased cell;

- (c) providing a bridge molecule capable of stimulating T cell activation comprising a binding site for CD28 or 4-1BB on the surface of T cells in said patient mammal;
- (d) attaching said bridge molecule to said target diseased cell; and
- (e) thereafter collecting a pharmaceutically effective amount of said target diseased cell with said bridge molecule attached thereto and administering said collection to said patient mammal;

wherein said steps (c) and (d) are performed either before or after said step (b).

58. The method of claim 36, wherein in step (b) said target diseased cell is treated by transferring into said target diseased cell a gene encoding a primary T cell activation molecule.

59. The method of claim 58, wherein said gene is a MHC gene.

60. The method of claim 36, wherein in step (b) said target diseased cell is treated by transferring into said target diseased cell a gene encoding a costimulatory T cell activation molecule.

61. The method of claim 60, wherein said gene is a B7 gene.

62. The method of claim 36, wherein in step (b) said target diseased cell is treated by transferring into said target diseased cell a gene selected from the group consisting of adhesion molecule genes and cytokine genes.